Appl. No. 10/708,059
Amdt. dated May 13, 2005
Reply to Office action of March 16, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application :

5   **Listing of Claims:**

1. (currently amended) A method of building a <u>wafer</u> defect database, the <u>wafer</u> defect database comprising a defect classification recipe which is used for a defect classification machine to perform an automatic defect classification, the method of building the defect

10   database comprising following steps:

(a) providing a <u>first</u> wafer with a plurality of defects thereon that were generated during a first semiconductor process;

(b) performing a defect inspection to <u>the first wafer to detect</u> ~~detect~~ the defects;

(c) providing a <u>predetermined</u> defect database which comprises a defect classification

15   recipe corresponding to a second semiconductor process;

(d) <u>utilizing the defect classification machine to perform</u> ~~performing~~ an automatic defect classification according to the <u>~~defect classification recipe~~ predetermined defect database</u> to separate the defects into a plurality of defect types;

(e) performing a manual defect classification <u>to verify the accuracy of the automatic</u>

20   <u>defect classification to each defect type;</u> ~~to separate the defects into a plurality of defect types; and~~

~~performing a verifying step to verify accuracy of the automatic defect classification for each defect type.~~

<u>(f) assigning the predetermined defect database as the wafer defect database when the</u>

25   <u>accuracy of the automatic defect classification is qualified and setting up the predetermined database for online usage;</u>

<u>(g) performing an updating step to correct the predetermined defect database when the accuracy of a specific defect type of the automatic defect classification is not</u>

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qualified, wherein the updating step comprises:

    providing a second wafer with a plurality of defects, wherein the second wafer

was generated from the first semiconductor process;

    performing a defect inspection to the second wafer; and

5   collecting defect classification recipe of the specific defect type to correct the

defect classification recipe within the predetermined defect database; and

    (h) repeating steps (d), (e), (f), and (g) to complete the wafer defect database.

10   2. (cancelled)

    3. (cancelled)

    4. (original) The method of claim 1 wherein the second semiconductor process is a previous

15 generation process compared to the first semiconductor process with the same design rule.

    5. (original) The method of claim 1 wherein the first semiconductor process and the second

semiconductor process have similar patterns or defect types.

20   6. (currently amended) A method of an automatic wafer defect classification comprising:

        providing a wafer with a plurality of defects thereon that were generated during a first

            semiconductor process;

        performing a defect inspection to detect the defects;

        providing a defect database which comprises a defect classification recipe

25   corresponding to a second semiconductor process; and

        performing an automatic defect classification according to the defect recipe to separate

    the defects into a plurality of defect types.

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7. (currently amended) The method of claim 6 further comprising a verifying step to verify accuracy of the automatic defect classification for each defect type, the verifying step comprising:

performing a manual defect classification to the defect; and

5   utilizing the result from the manual defect classification to verify the accuracy of the automatic defect classification.

8. (cancelled)

10   9. (currently amended) The method of claim 7 further comprising a step of updating the defect database if the accuracy of the automatic defect classification is not qualified, the step comprising:

collecting defect information from another wafer respective to the classification type with unqualified accuracy according to the result of the manual defect classification;

15   correcting the defect database according to the defect information; and
repeating the verifying step.

10. (cancelled)

20   11. (original) The method of claim 6 wherein the second semiconductor process is a previous generation process compared to the first semiconductor process with the same design rule.

12. (original) The method of claim 6 wherein the first semiconductor process and the second semiconductor process have similar patterns or defect types.

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